

Amendments to the Specification:

Please amend the paragraph beginning on page 30, line 21 and ending on page 30, line 30 as follows.

FIG. 19 is a block diagram of another embodiment of a filter and amplitude calculator 860 shown schematically in FIG. 16. The filter and amplitude calculator 860 may comprise an amplitude calculator 864 which is similar to the amplitude calculator 854 of FIG. 18. With the amplitude calculator 864, however, a summer 868 sums the outputs of the squaring calculators 816 and a correction value. Similar to the corrections values described with respect to FIG. 18, the correction value of FIG. 19 may be adjusted in order to bring the output of the summer 868 to zero when it is known, assumed, etc., ~~that~~^{that} the conductive film 704 is not being touched. In a manner similar to that described with respect to FIG. 18, correction values may be generated based on the output of the summer 868.

Please amend the paragraph beginning on page 34, line 1 and ending on page 34, line 16 as follows.

The position estimates X_i and Y_i may be related to the vertical and horizontal position of the detected touch, but because the resistivity of the conductive coating 704 (FIG. 16) is typically not uniform, they may not accurately reflect the touch position. Thus, at block 938, the position estimates X_i and Y_i may be converted to position values that more accurately reflect the touch position using, for example, a transformation according to the equations:

$$X_a = a_0 + a_1 X_i + a_2 Y_i + a_3 X_i Y_i; \text{ and} \quad (10)$$

$$Y_a = b_0 + b_1 Y_i + b_2 X_i + b_3 X_i Y_i; \quad (11)$$

where X_a is a more accurate estimate of the horizontal position of the touch from the left side of the touch screen, Y_a is a more accurate estimate of the vertical position of the touch from the top side of the touch screen, and $a_0, a_1, a_2, a_3, b_0, b_1, b_2$, and b_3 are conversion parameters for converting X_i and Y_i to X_a and Y_a . Other conversions can be utilized as well including, for example, lower-order or higher-order conversions.

Please amend the paragraph beginning on page 34, line 27 and ending on page 34, line 33 as follows.

When a touch is detected, a touch position estimate (i.e., X_i and Y_i) corresponding to the dot may be generated at a block 972. At a block 980 it may be determined whether more dots are to be displayed. For example, the blocks 964, 968 and 972 may be repeated for a plurality of dots at different positions. In one embodiment, the number of dots should be at least equal to the number of conversion parameters. In one example in which eight conversion parameters are to be used, the blocks 964, 968 and 972 may be repeated nine times for nine different dots.

Please amend the paragraph beginning on page 35, line 29 and ending on page 36, line 11 as follows.

The touch screen controller 1012 may comprise a processor and a memory, and may have a structure similar to that of the controller 100 described with reference to FIG. 3. The touch screen controller 1012 may be configured according to software instructions to implement squaring calculators 816, summers 820, square root calculators 824, and multiply-by-two calculators 828, as described with reference to FIG. 17, corresponding to each of the current sensors 716a, 716b, 716c, and 716d. Similarly, the touch screen controller 1012 may be configured according to software instructions to implement summers 858, as described with reference to ~~FIG. 17, FIG. 18,~~ corresponding to each of the current sensors 716a, 716b, 716c, and 716d. Additionally, the touch screen controller 1012 may be configured according to software instructions to implement the touch position calculator 732 as described with reference to FIG. 16. Further, the touch screen controller 1012 may be configured according to software instructions to implement at least portions of the methods 900, 930, and 960 as described with reference to FIGS. 21-23. The controller 100 (FIG. 3) could implement at least portions of the methods 900, 930, and 960 as well. In some embodiments, the touch screen controller 1012 may be omitted, and the controller 100 may implement the functions carried out by the touch screen controller 1012.